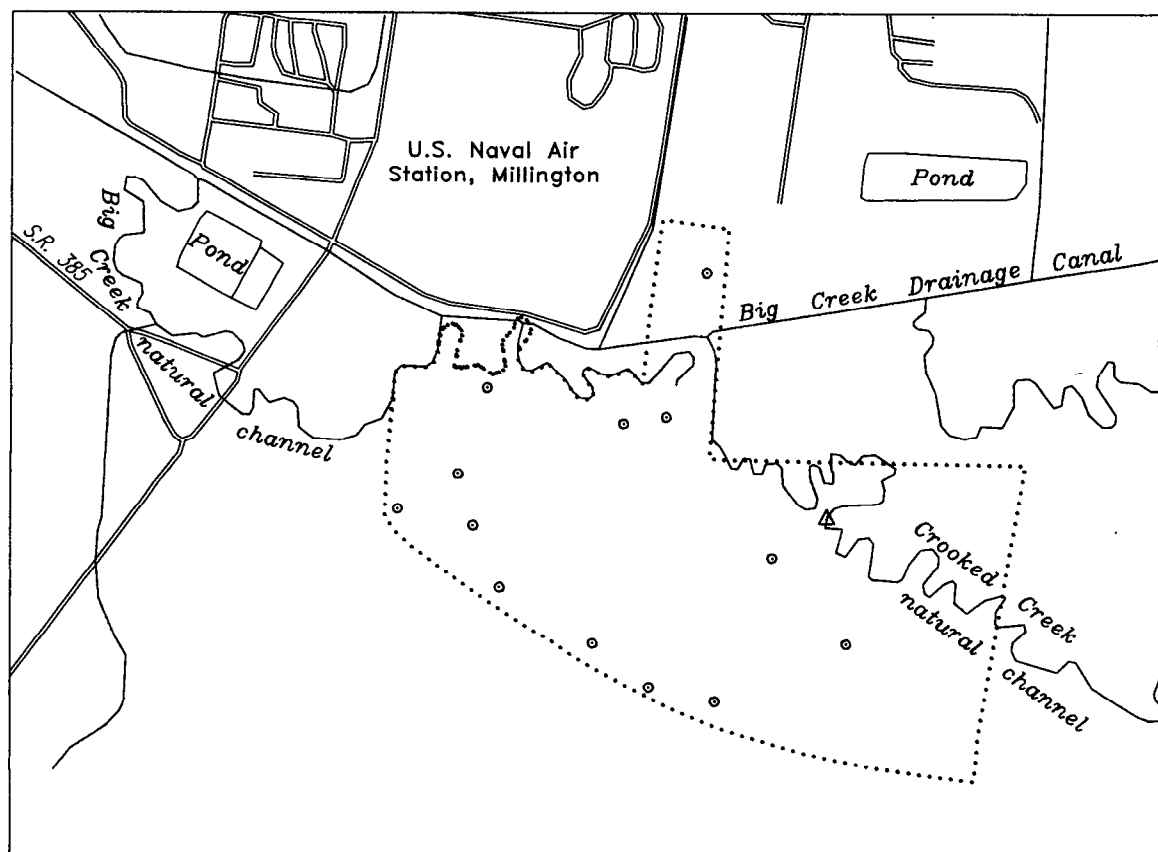


HYDROLOGIC DATA AT A WETLAND SITE, MILLINGTON, SHELBY COUNTY, TENNESSEE, JUNE 1993 THROUGH JUNE 1994



Prepared by the
U.S. GEOLOGICAL SURVEY

in cooperation with the
TENNESSEE DEPARTMENT OF TRANSPORTATION



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Hydrologic Data at a Wetland Site, Millington, Shelby County, Tennessee, June 1993 through June 1994

By John A. Robinson, Timothy H. Diehl, and Robert W. Stogner, Sr.

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1996

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To Obtain
inch (in.)	0.0254	meter
foot (ft)	0.3048	meter
acre	0.4047	hectare

Sea level: In this report “sea level” refers to the National Geodetic Vertical Datum of 1929—a geodetic datum derived from a general adjustment of first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

Hydrologic Data at a Wetland Site, Millington, Shelby County, Tennessee, June 1993 through June 1994

By John A. Robinson, Timothy H. Diehl, and Robert W. Stogner, Sr.

Abstract

Hydrologic data at a wetland site, near Millington, Shelby County, Tennessee, were collected from June 1993 through June 1994. The data were collected to support efforts by the Tennessee Department of Transportation in characterizing hydrologic properties at the site prior to wetland restoration. The study site is located along the Big Creek Drainage Canal and includes about 370 acres. Soils include somewhat poorly drained to poorly drained silt loams. Water levels were monitored in thirteen 8-inch-diameter wells. The casing in each well was slotted and screened from land surface to a depth of about 2 feet. Water-level recorders provided continuous measurement of stage during periods of wetland inundation and depth to water-table during periods of noninundation. A crest stage indicator was installed at the site and a continuous-stage recorder was installed on the Crooked Creek natural channel. Precipitation data were obtained from the Naval Air Station Memphis, Millington, Tennessee. Land surface at the wells was inundated from 0 to 56 percent of the study period. Additionally, water levels at the wells were within 1.5 feet of the land surface for 16 to 68 percent of the study period.

INTRODUCTION

In 1993, the U.S. Geological Survey (USGS), in cooperation with Tennessee Department of Transportation (TDOT), began a 13-month study to determine hydrologic characteristics of the Millington wetland mitigation bank site (referred to as the wetland site). Millington is located in the northern part of Shelby

County (fig. 1). The wetland site is along Big Creek Drainage Canal east of State Route 240.

Wetland restoration and preservation has become an important environmental issue in recent years. Wetlands perform many vital functions in maintaining the ecological integrity of regional environments. Wetlands provide storage and filtration of surface water, diverse habitats for plants and animals, corridors for the movements of animals and dissemination of plants, and a supply of nutrients to nearby aquatic environments (Light and others, 1993). A wetland has been defined "as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Sipple, 1987).

"No net loss of wetlands" (Lyon, 1993) is the objective of laws such as Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 enacted by the Federal government. In certain instances the construction of buildings, roads, and other manmade structures may disrupt natural wetlands and their function. Therefore, the protection, restoration, and (or) creation of wetlands that have been disturbed or destroyed is necessary.

Purpose and Scope

The purpose of this report is to present data to support TDOT efforts to better understand hydrologic properties at the site prior to wetland restoration. The wetland restoration is aimed at hydrologic conditions and reestablishing the vegetation. As a result of the channelizing of Big Creek and agricultural practices near the site, the water levels are lower than normal. The report includes water-level and well-construction data for 13 shallow continuous-record wells, stage

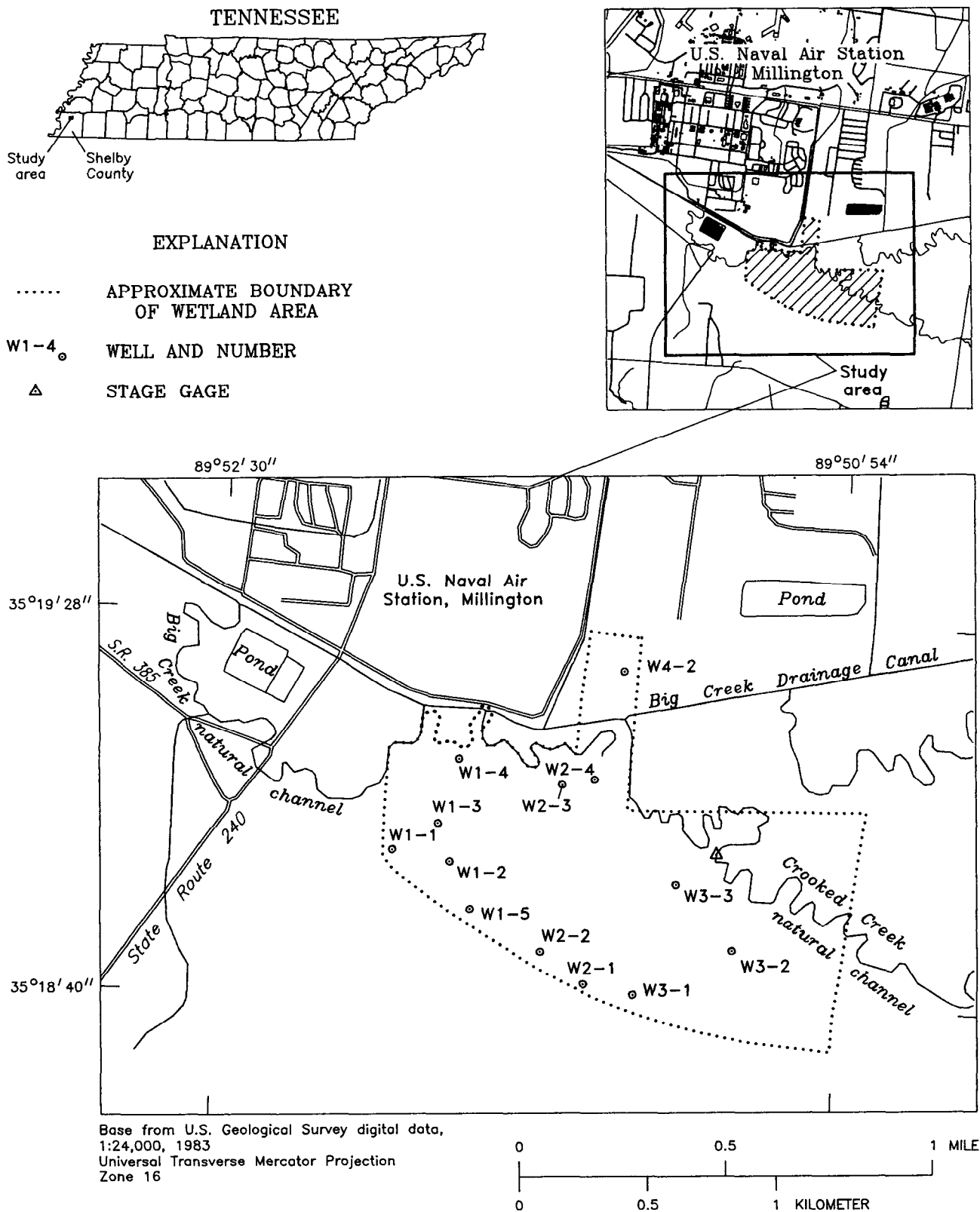


Figure 1. Location of study area, wells, and gages, Millington, Tennessee.

2 Hydrologic Data at a Wetland Site, Millington, Shelby County, Tennessee, June 1993 through June 1994

data for the Crooked Creek natural channel at the site, and precipitation data for a nearby location.

Study Area

The study area straddles the Big Creek Drainage Canal in Millington, Shelby County, Tennessee (fig. 1). The wetland site covers 370 acres and extends along a 6,200-foot reach in the flood plain of Big Creek Drainage Canal and receives surface-water drainage from approximately an additional 400 acres. Big Creek Drainage Canal flows to the Loosahatchie River and enters the river about 10 miles upstream of the confluence with the Mississippi River.

Millington is located in southwest Tennessee on part of the Gulf Coastal Plain Physiographic Province and near the confluence of the Big Creek Drainage Canal and North Fork Creek. Soils in the wetland site include the somewhat poorly drained Calloway silt loam and Falaya silt loam, and the poorly drained Waverly silt loam and Henry silt loam (Sease and others, 1970; J.C. Jenkins, Soil Conservation Service, oral commun., 1993). The average growing season, defined as the average period between the last spring frost and the first autumn frost, is from March 15 to November 12 (M.E. Zeman, Natural Resources Conservation Service, Nashville, Tennessee, written commun., 1995). The Millington wetland site, in the past, was drained and has been used for agriculture produc-

tion. The restoration project is intended to restore wetland hydrology and vegetation.

GAGE AND WELL CONSTRUCTION

The USGS constructed 14 wells in June 1993 to monitor soil water-table levels in the wetland site. One well (W4-1) was located on a berm and abandoned because it did not represent conditions at the wetland site. A stage gage on the Crooked Creek natural channel within the wetland site was also installed. Well and gage locations were determined from a 7.5-minute series topographic map (table 1).

Thirteen 8-inch-diameter wells, approximately 2 feet deep, were constructed and equipped to record water levels at 1-hour intervals. A portable two-man auger was used to drill 1-foot-diameter holes to a depth of about 2 feet. The wells were cased with 8-inch-diameter schedule 40 polyvinylchloride (PVC) pipe. The pipes extended about 4 feet above land surface. The section of pipe below land surface was slotted and screened. A screen sock was installed over the slotted section of pipe and packed in sand. The critical water-table depths for wetland hydrology for different soil-drainage classes are as follows: 0.5 foot below land surface for somewhat poorly drained, 1.0 foot for highly permeable, poorly drained, and 1.5 feet for low permeability, poorly drained soils (Federal Inter-agency Committee for Wetland Delineation, 1989).

Table 1. Installation data for wells at Millington, Tennessee

[Soil type from Sease and others, 1970; J.C. Jenkins, Soil Conservation Service, oral commun., 1993. Well W4-1 abandoned]

USGS well number	Project number	Station number	Date of construction	Soil Type
Sh:V60	W1-1	351859089520101	6-3-93	Henry silt loam
Sh:V6	W1-2	351859089515501	6-3-93	Falaya silt loam
Sh:V62	W1-3	351906089515601	6-3-93	Falaya silt loam
Sh:V63	W1-4	351912089515301	6-3-93	Falaya silt loam
Sh:V64	W1-5	351853089515101	6-3-93	Henry silt loam
Sh:V65	W2-1	351841089513101	6-3-93	Calloway silt loam
Sh:V66	W2-2	351843089514001	6-3-93	Calloway silt loam
Sh:V67	W2-3	351907089514101	6-3-93	Falaya silt loam
Sh:V68	W2-4	351909089513301	6-3-93	Falaya silt loam
Sh:V69	W3-1	351842089512501	6-2-93	Falaya silt loam
Sh:V70	W3-2	351848089511001	6-2-93	Falaya silt loam
Sh:V71	W3-3	351856089511901	6-2-93	Waverly silt loam
Sh:V72	W4-1	351929089513101	6-3-93	Falaya silt loam
Sh:V73	W4-2	351923089512801	6-3-93	Falaya silt loam

The wells were sealed with a 4-inch bentonite layer, a 6-inch thick concrete seal, and a 2-foot by 2-foot concrete pad. The wells were capped with stainless-steel shelters in which continuous-stage recording equipment was installed. Typical well construction is shown in figure 2.

A stage gage was located on the Crooked Creek natural channel within the wetland site. A float was attached to a digital recorder placed over a stilling well. Stage data were collected at 1-hour intervals.

HYDROLOGIC DATA

Hydrologic data for the wetland site and the Crooked Creek natural channel were collected during

the period from June 3, 1993 through June 30, 1994. Water levels in the wetland site and the Crooked Creek natural channel were measured (figs. 3-7). Precipitation data were obtained from the Naval Air Station Memphis (NASM), Millington, Tennessee.

Water-Level Data

Water levels were generally below the bottom of all wells at about 2 feet during June through November 1993 (tables 2-14). During December 1993 through April 1994, water levels rose above the bottom of the wells (fig. 3-7). Water levels in well W1-2 (fig. 3), well W2-2 (fig. 5), and well W3-2 (fig. 6) were occasionally at or above land surface. Water levels in

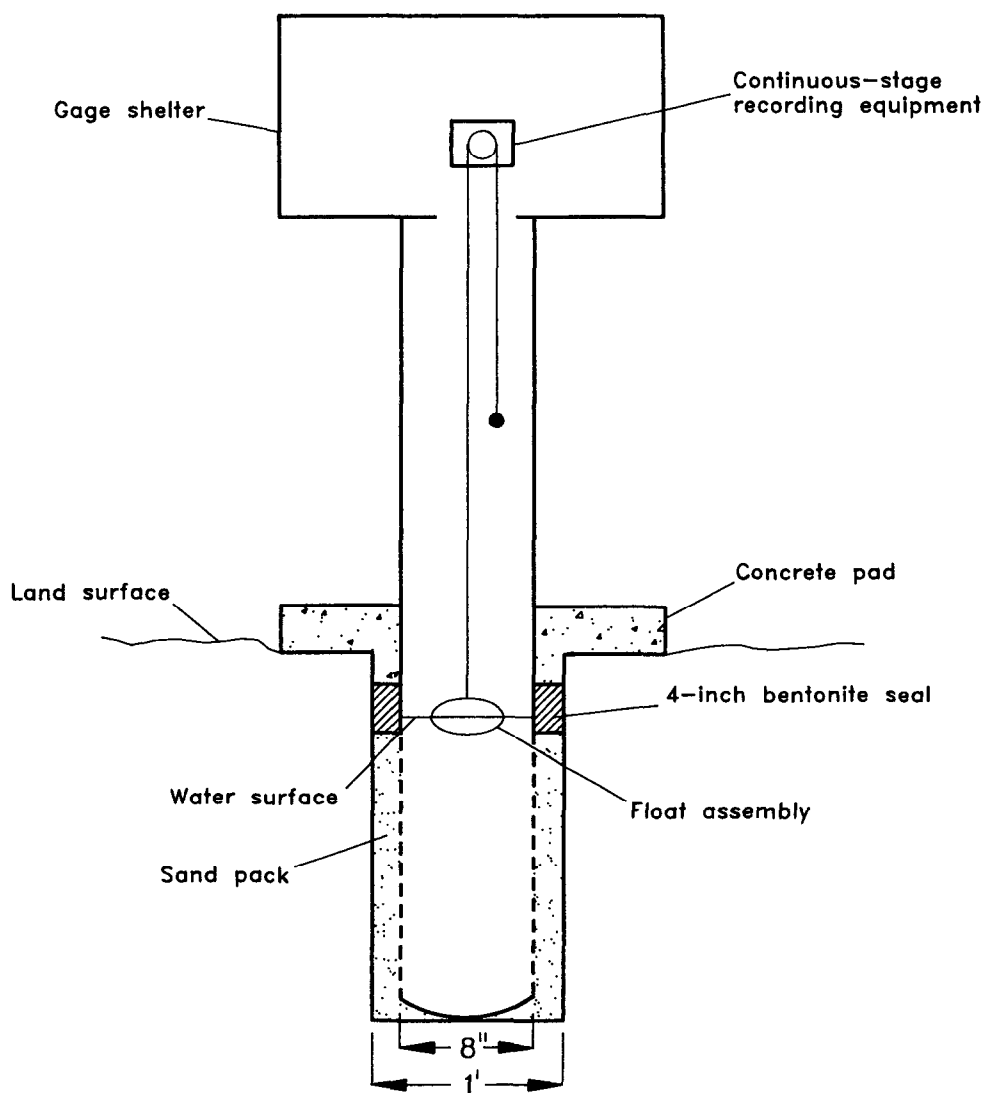


Figure 2. Construction diagram for wells at Millington, Tennessee.

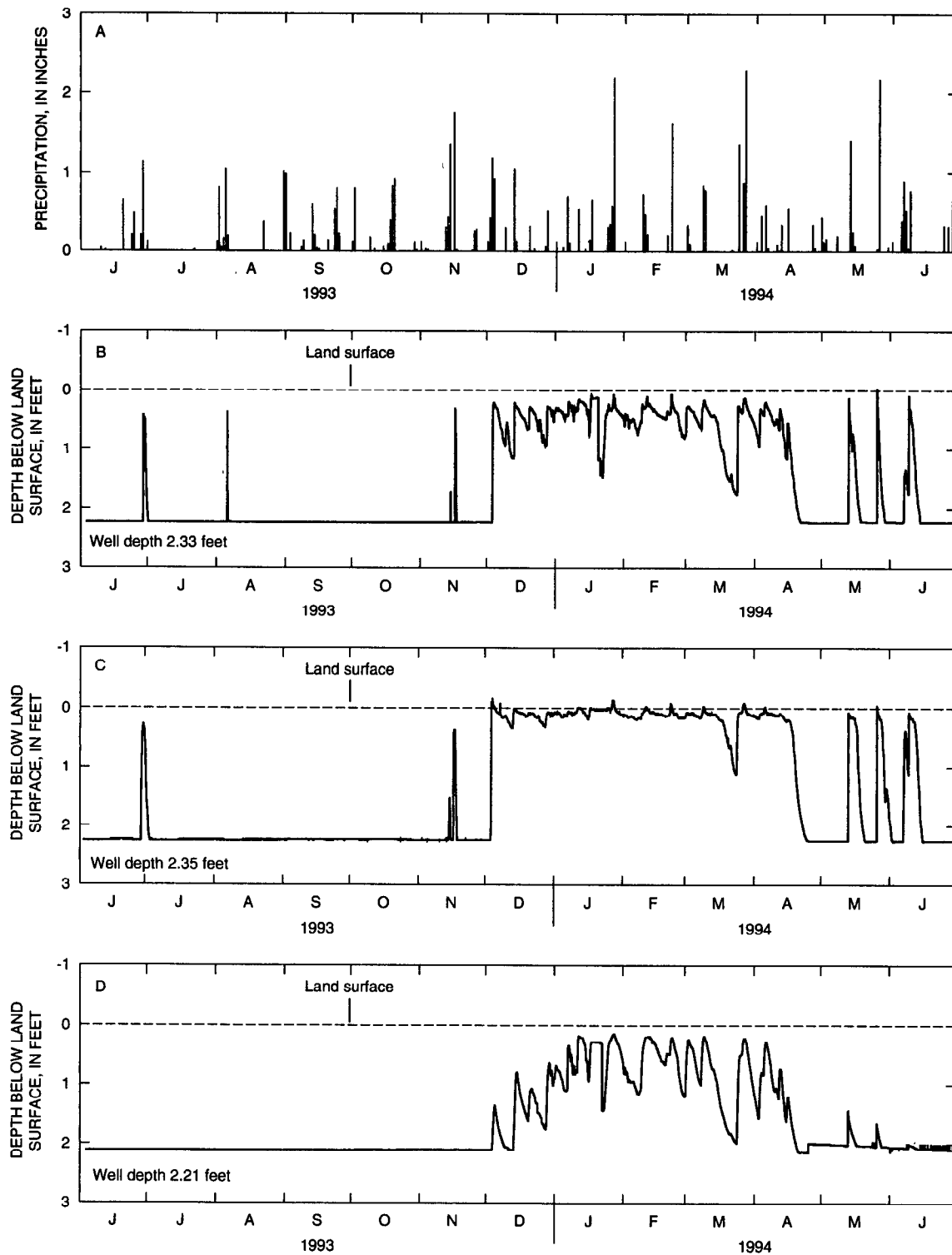


Figure 3. (A) Daily precipitation at Naval Air Station Memphis, Millington, Tennessee, June 1, 1993 through June 30, 1994; and hourly water levels for (B) well W1-1, (C) well W1-2, and (D) well W1-3 at Millington, Tennessee, June 3, 1993 through June 30, 1994.

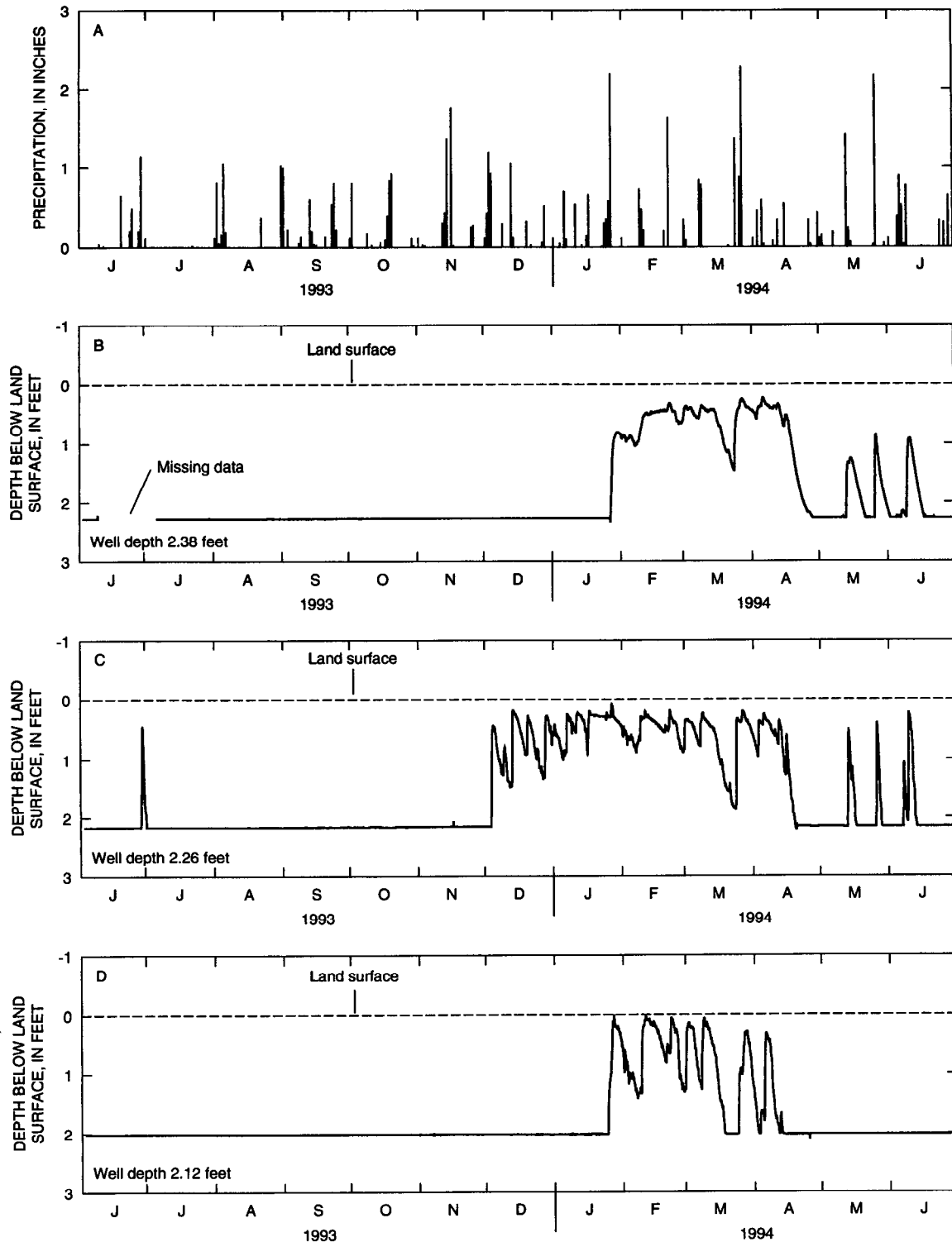


Figure 4. (A) Daily precipitation at Naval Air Station Memphis, Millington, Tennessee, June 1, 1993 through June 30, 1994; and hourly water levels for (B) well W1-4, (C) well W1-5, and (D) well W2-1 at Millington, Tennessee, June 3, 1993 through June 30, 1994.

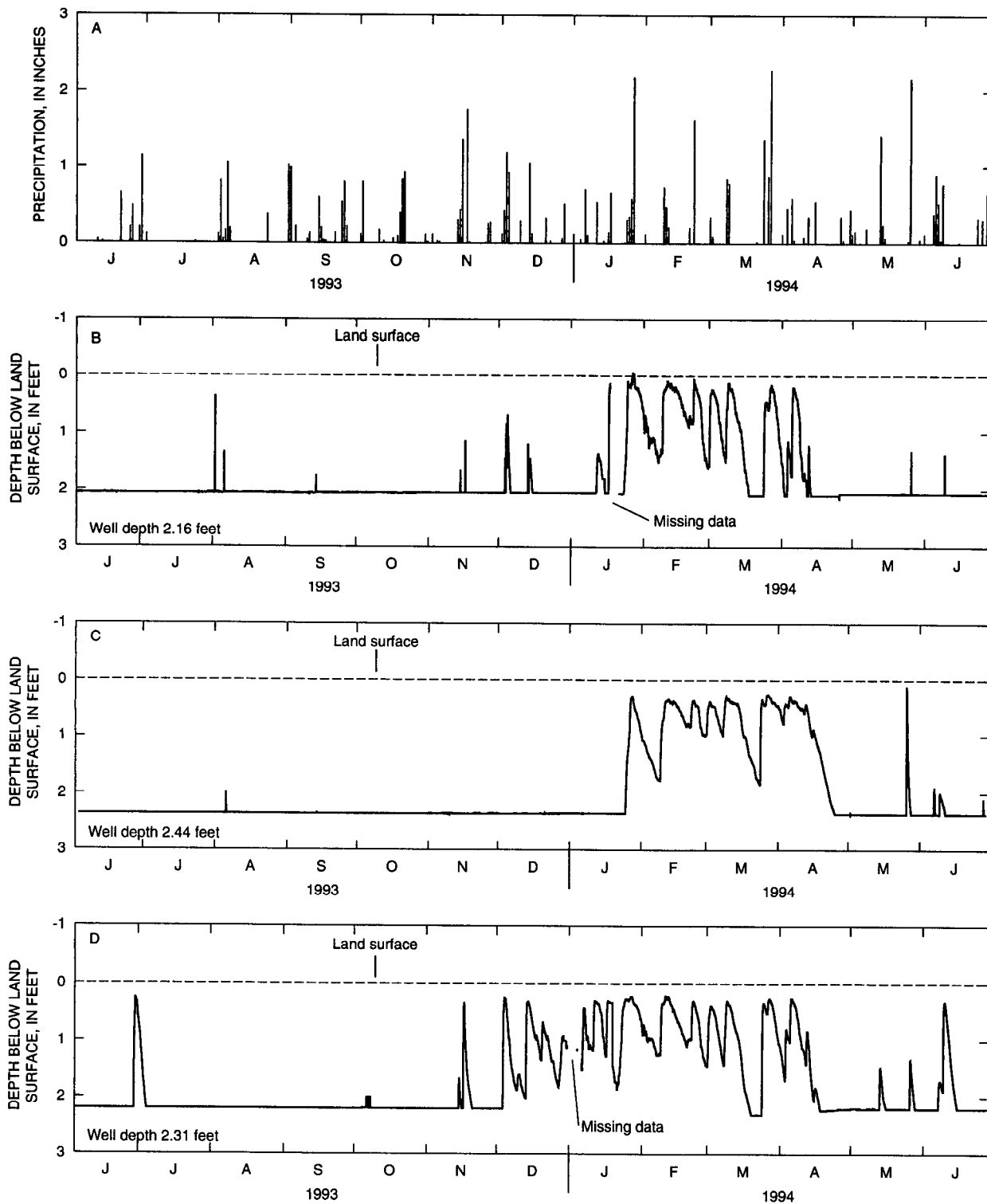


Figure 5. (A) Daily precipitation at Naval Air Station Memphis, Millington, Tennessee, June 1, 1993 through June 30, 1994; and hourly water levels for (B) well W2-2, (C) well W2-3, and (D) well W2-4 at Millington, Tennessee, June 3, 1993 through June 29, 1994.

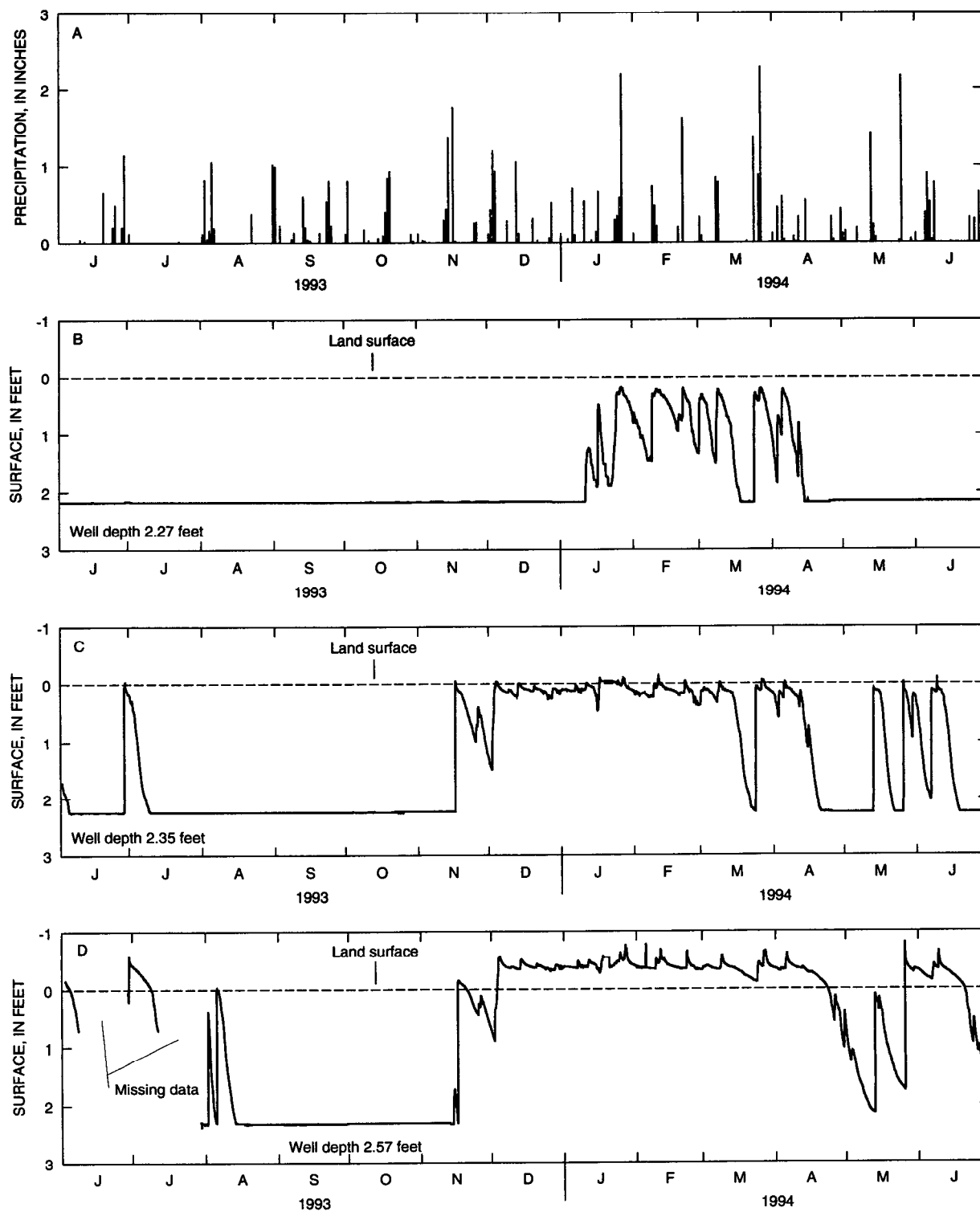


Figure 6. (A) Daily precipitation at Naval Air Station Memphis, Millington, Tennessee, June 1, 1993 through June 30, 1994; and hourly water levels for (B) well W3-1, (C) well W3-2, and (D) well W3-3 at Millington, Tennessee, June 2, 1993 through June 29, 1994.

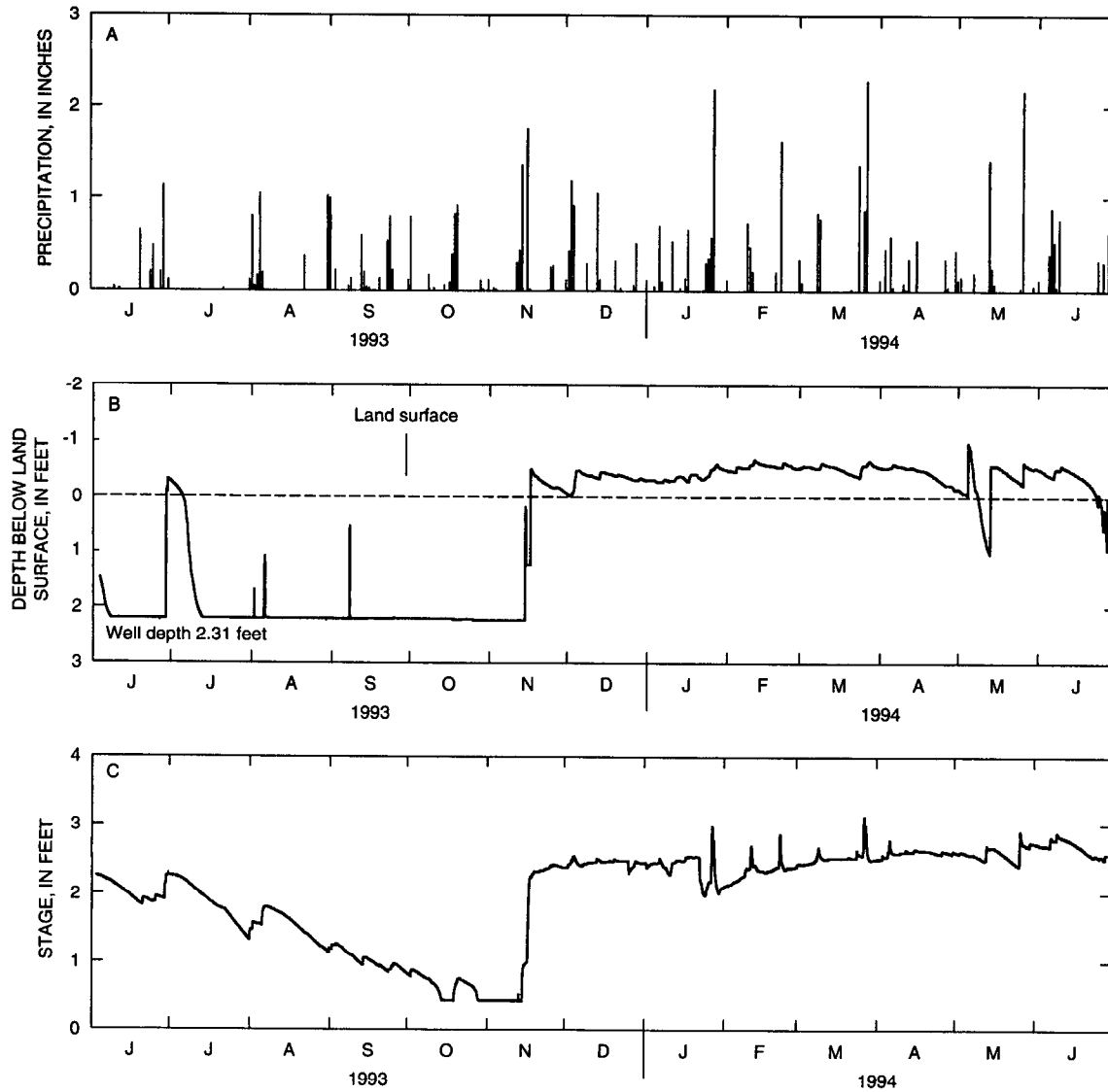


Figure 7. (A) Daily precipitation at Naval Air Station Memphis, Millington, Tennessee, June 1, 1993 through June 30, 1994; (B) hourly water levels for well W4-2, June 3, 1993 through June 29, 1994; and (C) hourly stage for Crooked Creek natural channel gage at Millington, Tennessee, June 2, 1993 through June 29, 1994.

Table 2. Mean daily water level at well W1-1 at Millington, Tennessee, June 4, 1993 through June 29, 1994

[Water level in feet below land surface; --, no record; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	0.32	0.48	0.40	0.66	>2.0	>2.0
2	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.33	.45	.28	.84	>2.0	>2.0
3	--	>2.0	>2.0	>2.0	>2.0	>2.0	1.69	.35	.53	.33	.49	>2.0	>2.0
4	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.24	.40	.51	.37	.38	>2.0	>2.0
5	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.30	.45	.50	.45	.28	>2.0	>2.0
6	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.44	.40	.61	.53	.26	>2.0	>2.0
7	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.63	.22	.69	.60	.34	>2.0	1.77
8	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.81	.29	.56	.38	.44	>2.0	1.46
9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.82	.37	.31	.19	.54	>2.0	1.07
10	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.62	.33	.29	.29	.52	>2.0	.42
11	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.56	.22	.18	.37	.56	>2.0	.76
12	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.13	.19	.24	.42	.40	>2.0	1.33
13	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.71	.20	.28	.42	.58	1.08	1.80
14	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.28	.24	.32	.47	.93	.76	>2.0
15	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.33	.36	.36	.60	.93	.84	>2.0
16	>2.0	>2.0	>2.0	>2.0	>2.0	1.74	.41	.54	.40	.85	.77	1.28	>2.0
17	>2.0	>2.0	>2.0	>2.0	>2.0	1.84	.46	.12	.43	1.01	1.19	1.79	>2.0
18	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.53	.13	.45	1.19	1.54	>2.0	>2.0
19	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.64	.13	.47	1.42	1.83	>2.0	>2.0
20	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.38	.62	.41	1.50	>2.0	>2.0	>2.0
21	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.33	1.24	.39	1.48	>2.0	>2.0	>2.0
22	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.38	1.28	.22	1.65	>2.0	>2.0	>2.0
23	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.49	.69	.28	1.73	>2.0	>2.0	>2.0
24	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.58	.36	.35	.84	>2.0	>2.0	>2.0
25	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.61	.28	.43	.32	>2.0	>2.0	>2.0
26	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.81	.32	.63	.33	>2.0	.83	>2.0
27	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.90	.18	.74	.16	>2.0	1.15	>2.0
28	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.48	.29	.78	.27	>2.0	1.76	>2.0
29	1.02	>2.0	>2.0	>2.0	>2.0	>2.0	.30	.35	--	.37	>2.0	>2.0	>2.0
30	1.38	>2.0	>2.0	>2.0	>2.0	>2.0	.37	.40	--	.45	>2.0	>2.0	--
31	--	>2.0	>2.0	--	>2.0	--	.42	.44	--	.54	--	>2.0	--
MEAN	--	>2.0	>2.0	>2.0	>2.0	--	--	.39	.44	.65	--	--	--

Table 3. Mean daily water level at well W1-2 at Millington, Tennessee, June 4, 1993 through June 29, 1994

[Water level in feet below land surface; --, no record; negative values indicate ponded conditions; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY-	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	0.90	>2.0	>2.0	>2.0	>2.0	>2.0	0.08	0.11	0.11	0.12	>2.0	>2.0
2	--	1.88	>2.0	>2.0	>2.0	>2.0	>2.0	.08	.11	.08	.15	>2.0	>2.0
3	--	>2.0	>2.0	>2.0	>2.0	>2.0	1.88	.08	.14	.09	.13	>2.0	>2.0
4	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	-.07	.13	.13	.08	.08	>2.0	>2.0
5	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.00	.12	.14	.11	.04	>2.0	>2.0
6	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.06	.12	.16	.12	.04	>2.0	>2.0
7	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.08	.07	.18	.14	.08	>2.0	1.22
8	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.13	.07	.16	.12	.08	>2.0	.57
9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.15	.09	.13	.00	.10	>2.0	.71
10	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.14	.07	.06	.06	.11	>2.0	.14
11	>2.0	>2.0	>2.0	>2.0	>2.0	--	.22	.04	.00	.08	.12	>2.0	.18
12	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.30	.00	.01	.09	.10	>2.0	.30
13	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.26	.01	.06	.09	.11	1.04	.79
14	>2.0	>2.0	>2.0	>2.0	>2.0	--	.02	.06	.06	.10	.16	.13	1.55
15	>2.0	>2.0	>2.0	>2.0	>2.0	1.97	.05	.11	.07	.12	.20	.15	>2.0
16	>2.0	>2.0	>2.0	>2.0	>2.0	1.90	.07	.15	.09	.17	.19	.21	>2.0
17	>2.0	>2.0	>2.0	>2.0	>2.0	.64	.09	.02	.09	.20	.27	.59	>2.0
18	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.10	.01	.10	.26	.52	1.38	>2.0
19	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.13	.01	.11	.44	.97	1.89	>2.0
20	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.10	.02	.12	.59	1.42	>2.0	>2.0
21	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	--	.02	.12	.65	1.73	>2.0	>2.0
22	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.08	.02	.02	.88	1.94	>2.0	>2.0
23	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.12	.02	.01	1.07	>2.0	>2.0	>2.0
24	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.14	.03	.09	.63	>2.0	>2.0	>2.0
25	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.17	.00	.10	.07	>2.0	>2.0	>2.0
26	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.24	.02	.15	.05	>2.0	.68	>2.0
27	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.29	-.09	.15	-.06	>2.0	.14	>2.0
28	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.21	-.03	.15	.02	>2.0	.30	>2.0
29	1.62	>2.0	>2.0	>2.0	>2.0	>2.0	.07	.05	--	.09	>2.0	1.04	>2.0
30	.34	>2.0	>2.0	>2.0	>2.0	>2.0	.09	.07	--	.10	>2.0	1.44	--
31	--	>2.0	>2.0	--	>2.0	--	.10	.10	--	.11	--	1.64	--
MEAN	--	--	>2.0	>2.0	>2.0	--	--	.05	.10	.21	--	--	--

Table 4. Mean daily water level at well W1-3 at Millington, Tennessee, June 4, 1993 through June 29, 1994

[Water level in feet below land surface; --, no record; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	0.78	0.74	0.80	1.24	2.00	>2.0
2	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.75	.79	.28	1.44	2.00	>2.0
3	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.81	.91	.32	1.25	2.00	>2.0
4	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.64	.92	.95	.39	.82	2.00	>2.0
5	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.45	1.07	.95	.58	.62	>2.0	>2.0
6	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.67	1.09	1.02	.79	.30	>2.0	>2.0
7	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.83	.40	1.13	.94	.44	>2.0	>2.0
8	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.95	.53	1.13	.68	.70	>2.0	>2.0
9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.73	.77	.22	.98	>2.0	>2.0
10	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.78	.32	.26	1.08	>2.0	>2.0
11	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.53	.21	.41	1.12	>2.0	>2.0
12	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.19	.20	.62	.90	>2.0	>2.0
13	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.97	.21	.21	.74	.90	1.71	>2.0
14	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.08	.29	.27	.82	1.33	1.72	>2.0
15	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.89	.55	.30	.99	1.50	1.85	>2.0
16	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.13	.85	.39	1.24	1.28	1.95	>2.0
17	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.30	.39	.49	1.43	1.53	>2.0	>2.0
18	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.43	.28	.59	1.55	1.77	>2.0	>2.0
19	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.54	.28	.64	1.69	1.95	>2.0	>2.0
20	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.42	.28	.59	1.79	>2.0	>2.0	>2.0
21	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.09	.29	.48	1.83	>2.0	>2.0	>2.0
22	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.14	.70	.36	1.88	>2.0	>2.0	>2.0
23	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.27	1.36	.24	1.95	>2.0	>2.0	>2.0
24	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.42	.90	.38	1.59	>2.0	>2.0	>2.0
25	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.51	.39	.54	.60	>2.0	>2.0	>2.0
26	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.63	.24	.86	.46	1.99	1.80	>2.0
27	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.71	.17	1.07	.24	1.99	1.90	>2.0
28	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.43	.19	1.18	.28	2.00	>2.0	>2.0
29	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.72	.29	--	.52	2.00	>2.0	>2.0
30	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.78	.37	--	.78	2.00	>2.0	--
31	--	>2.0	>2.0	--	>2.0	--	.93	.52	--	1.02	--	>2.0	--
MEAN	--	>2.0	>2.0	>2.0	>2.0	>2.0	--	.55	.63	.89	--	--	--

Table 5. Mean daily water level at well W1-4 at Millington, Tennessee, June 4, 1993 through June 29, 1994

[Water level in feet below land surface; --, no record; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	0.88	0.51	0.45	>2.0	>2.0
2	--	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.86	.38	.51	>2.0	>2.0
3	--	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.93	.41	.49	>2.0	>2.0
4	>2.0	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.91	.40	.38	>2.0	>2.0
5	>2.0	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.88	.45	.31	>2.0	>2.0
6	>2.0	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.93	.52	.26	>2.0	>2.0
7	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.02	.56	.34	>2.0	>2.0
8	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.99	.53	.37	>2.0	>2.0
9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.89	.38	.40	>2.0	1.98
10	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.69	.40	.40	>2.0	1.01
11	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.54	.43	.37	>2.0	.97
12	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.49	.45	.36	>2.0	1.20
13	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.50	.43	.41	1.88	1.45
14	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.49	.43	.58	1.34	1.69
15	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.47	.46	.66	1.27	1.91
16	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.47	.60	.54	1.36	>2.0
17	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.46	.70	.67	1.53	>2.0
18	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.46	.79	.90	1.71	>2.0
19	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.44	.98	1.15	1.88	>2.0
20	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.44	1.11	1.40	>2.0	>2.0
21	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.44	1.14	1.61	>2.0	>2.0
22	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.39	1.26	1.78	>2.0	>2.0
23	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.34	1.40	1.93	>2.0	>2.0
24	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.44	1.03	>2.0	>2.0	>2.0
25	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.47	.48	>2.0	>2.0	>2.0
26	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.60	.37	>2.0	1.41	>2.0
27	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.65	.26	>2.0	1.09	>2.0
28	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.16	.64	.29	>2.0	1.45	>2.0
29	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.87	--	.37	>2.0	1.70	>2.0
30	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.81	--	.40	>2.0	1.88	--
31	--	>2.0	>2.0	--	>2.0	--	>2.0	.82	--	.43	--	>2.0	--
MEAN	--	--	>2.0	>2.0	>2.0	>2.0	>2.0	--	.63	.59	--	--	--

Table 6. Mean daily water level at well W1-5 at Millington, Tennessee, June 4, 1993 through June 29, 1994

[Water level in feet below land surface; --, no record; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	1.98	>2.0	>2.0	>2.0	>2.0	>2.0	0.51	0.52	0.47	0.71	>2.0	>2.0
2	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.59	.55	.35	.87	>2.0	>2.0
3	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.67	.66	.39	.50	>2.0	>2.0
4	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.81	.86	.65	.42	.41	>2.0	>2.0
5	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.50	.94	.65	.51	.33	>2.0	>2.0
6	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.77	.86	.77	.63	.34	>2.0	>2.0
7	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.00	.28	.82	.73	.38	>2.0	1.70
8	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.17	.34	.67	.48	.45	>2.0	1.70
9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.09	.45	.39	.27	.56	>2.0	1.36
10	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.94	.50	.33	.35	.57	>2.0	.37
11	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.32	.36	.26	.39	.67	>2.0	.91
12	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.42	.26	.29	.45	.46	>2.0	1.67
13	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.87	.28	.32	.48	.60	1.39	>2.0
14	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.23	.35	.35	.54	1.03	.98	>2.0
15	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.30	.51	.38	.68	1.00	1.29	>2.0
16	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.42	.69	.41	.95	1.03	1.77	>2.0
17	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.57	.24	.45	1.06	1.49	>2.0	>2.0
18	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.73	.27	.49	1.23	1.81	>2.0	>2.0
19	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.89	.27	.54	1.45	>2.0	>2.0	>2.0
20	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.49	.28	.51	1.53	>2.0	>2.0	>2.0
21	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.39	.29	.50	1.53	>2.0	>2.0	>2.0
22	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.53	.29	.33	1.76	>2.0	>2.0	>2.0
23	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.78	.29	.33	1.82	>2.0	>2.0	>2.0
24	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.90	.31	.39	.88	>2.0	>2.0	>2.0
25	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.01	.28	.45	.37	>2.0	>2.0	>2.0
26	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.16	.30	.66	.36	>2.0	1.01	>2.0
27	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.29	.20	.81	.24	>2.0	1.20	>2.0
28	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.62	.30	.86	.33	>2.0	1.95	>2.0
29	1.60	>2.0	>2.0	>2.0	>2.0	>2.0	.32	.36	--	.40	>2.0	>2.0	>2.0
30	1.03	>2.0	>2.0	>2.0	>2.0	>2.0	.48	.39	--	.47	>2.0	>2.0	--
31	--	>2.0	>2.0	--	>2.0	--	.63	.44	--	.59	--	>2.0	--
MEAN	--	--	>2.0	>2.0	>2.0	>2.0	--	.42	.51	.71	--	--	--

Table 7. Mean daily water level at well W2-1 at Millington, Tennessee, June 4, 1993 through June 28, 1994

[Water level in feet below land surface; --, no record; water levels greater than 1.8 (>1.8) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	0.77	0.59	1.59	>1.8	>1.8
2	--	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.84	.17	>1.9	>1.8	>1.8
3	--	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.05	.22	>1.8	>1.8	>1.8
4	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.05	.27	1.65	>1.8	>1.8
5	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.07	.59	1.10	>1.8	>1.8
6	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.26	.92	.36	>1.8	>1.8
7	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.37	1.16	.47	>1.8	>1.8
8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.29	.73	.82	>1.8	>1.8
9	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.63	.11	1.46	>1.8	>1.8
10	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.14	.17	1.75	>1.8	>1.8
11	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.07	.25	>1.8	>1.8	>1.8
12	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.09	.41	>1.8	>1.8	>1.8
13	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.14	.55	>1.8	>1.8	>1.8
14	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.14	.73	>1.8	>1.8	>1.8
15	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.19	1.09	>1.8	>1.8	>1.8
16	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.28	1.44	>1.8	>1.8	>1.8
17	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.40	1.58	>1.8	>1.8	>1.8
18	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.55	>1.8	>1.8	>1.8	>1.8
19	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.70	>1.8	>1.8	>1.8	>1.8
20	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.67	>1.8	>1.8	>1.8	>1.8
21	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.60	>1.8	>1.8	>1.8	>1.8
22	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.29	>1.8	>1.8	>1.8	>1.8
23	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.15	>1.8	>1.8	>1.8	>1.8
24	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.27	>1.8	>1.8	>1.8	>1.8
25	>1.8	>1.8	--	>1.8	>1.8	>1.8	>1.8	1.41	.44	.98	--	>1.8	>1.8
26	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.88	1.02	.91	>1.8	>1.8	>1.8
27	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.15	1.21	.42	>1.8	>1.8	>1.8
28	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.18	1.28	.32	>1.8	>1.8	>1.8
29	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.23	--	.51	>1.8	>1.8	--
30	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.33	--	.85	>1.8	>1.8	--
31	--	>1.8	>1.8	--	>1.8	--	>1.8	.53	--	1.25	--	>1.8	--
MEAN	--	>1.8	--	>1.8	>1.8	>1.8	>1.8	--	.64	--	--	>1.8	--

Table 8. Mean daily water level at well W2-2 at Millington, Tennessee, June 4, 1993 through June 28, 1994

[Water level in feet below land surface; --, no record; water levels greater than 1.8 (>1.8) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	0.78	0.76	1.68	>1.8	>1.8
2	--	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.87	.27	>1.8	>1.8	>1.8
3	--	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.11	.34	1.54	>1.8	>1.8
4	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.38	>1.8	1.11	.48	1.45	>1.8	>1.8
5	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.52	>1.8	1.11	.79	.84	>1.8	>1.8
6	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.31	1.10	.27	>1.8	>1.8
7	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.44	1.36	.43	>1.8	>1.8
8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.33	.87	.86	>1.8	>1.8
9	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.55	.18	1.54	>1.8	>1.8
10	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.21	.24	1.77	>1.8	>1.8
11	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.13	.37	>1.8	>1.8	>1.8
12	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.44	.16	.62	1.68	>1.8	>1.8
13	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.49	.21	.78	>1.8	>1.8	>1.8
14	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.55	1.75	.22	.95	>1.8	>1.8	>1.8
15	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.27	1.26	>1.8	>1.8	>1.8
16	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.36	1.63	>1.8	>1.8	>1.8
17	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	--	.50	>1.8	>1.8	>1.8	>1.8
18	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	--	.64	>1.8	>1.8	>1.8	>1.8
19	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	--	.76	>1.8	>1.8	>1.8	>1.8
20	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	--	.78	>1.8	>1.8	>1.8	>1.8
21	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	--	.78	>1.8	>1.8	>1.8	>1.8
22	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.38	>1.8	>1.8	>1.8	>1.8
23	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.22	>1.8	>1.8	>1.8	>1.8
24	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	1.34	.34	1.34	>1.8	>1.8	>1.8
25	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.19	.56	.46	--	>1.8	>1.8
26	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.17	1.13	.50	>1.8	>1.8	>1.8
27	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.03	1.42	.22	>1.8	>1.8	>1.8
28	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.19	1.55	.29	>1.8	>1.8	>1.8
29	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.24	--	.53	>1.8	>1.8	--
30	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	>1.8	.34	--	.90	>1.8	>1.8	--
31	--	>1.8	>1.8	--	>1.8	--	>1.8	.52	--	1.29	--	>1.8	--
MEAN	--	>1.8	>1.8	>1.8	>1.8	>1.8	--	--	.72	1.03	--	>1.8	--

Table 9. Mean daily water level at well W2-3 at Millington, Tennessee, June 4, 1993 through June 28, 1994

[Water level in feet below land surface; --, no record; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.04	0.70	0.52	>2.0	>2.0
2	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.13	.42	.69	>2.0	>2.0
3	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.26	.46	.59	>2.0	>2.0
4	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.36	.48	.45	>2.0	>2.0
5	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.44	.62	.40	>2.0	>2.0
6	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.55	.77	.34	>2.0	>2.0
7	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.69	.90	.39	>2.0	>2.0
8	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.75	.77	.40	>2.0	>2.0
9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.25	.35	.47	>2.0	>2.0
10	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.67	.35	.51	>2.0	>2.0
11	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.40	.39	.54	>2.0	>2.0
12	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.36	.41	.51	>2.0	>2.0
13	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.39	.41	.55	>2.0	>2.0
14	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.40	.45	.81	>2.0	>2.0
15	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.41	.57	.95	>2.0	>2.0
16	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.47	.84	.95	>2.0	>2.0
17	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.54	1.00	1.11	>2.0	>2.0
18	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.63	1.11	1.24	>2.0	>2.0
19	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.72	1.31	1.40	>2.0	>2.0
20	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.80	1.42	1.59	>2.0	>2.0
21	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.80	1.51	1.76	>2.0	>2.0
22	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.66	1.69	1.95	>2.0	>2.0
23	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.38	1.78	>2.0	>2.0	>2.0
24	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.45	1.04	>2.0	>2.0	>2.0
25	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.87	.50	.40	--	>2.0	>2.0
26	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.13	.79	.41	>2.0	1.25	>2.0
27	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.40	.94	.28	>2.0	1.96	>2.0
28	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.38	.98	.33	>2.0	>2.0	>2.0
29	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.55	--	.39	>2.0	>2.0	--
30	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.69	--	.42	>2.0	>2.0	--
31	--	>2.0	>2.0	--	>2.0	--	>2.0	.86	--	.46	--	>2.0	--
MEAN	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	--	.85	.72	--	--	--

Table 10. Mean daily water level at well W2-4 at Millington, Tennessee, June 4, 1993 through June 28, 1994

[Water level in feet below land surface; --, no record; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	0.75	>2.0	>2.0	>2.0	>2.0	>2.0	--	0.78	1.02	1.20	>2.0	>2.0
2	--	1.24	>2.0	>2.0	>2.0	>2.0	>2.0	--	.82	.42	1.48	>2.0	>2.0
3	--	1.77	>2.0	>2.0	>2.0	>2.0	1.81	--	.94	.44	1.15	>2.0	>2.0
4	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.31	--	.96	.56	.93	>2.0	>2.0
5	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.57	--	.96	.79	.58	>2.0	>2.0
6	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.04	--	1.08	1.04	.29	>2.0	>2.0
7	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.46	0.50	1.23	1.29	.39	>2.0	>2.0
8	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.71	.87	1.24	1.11	.60	>2.0	1.75
9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.85	1.07	.67	.35	.88	>2.0	1.34
10	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.62	1.12	.33	.37	1.11	>2.0	.40
11	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.76	.82	.23	.49	1.25	>2.0	.74
12	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.92	.32	.26	.68	1.02	>2.0	1.19
13	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.48	.36	.35	.83	1.23	1.87	1.63
14	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.34	.48	.44	.98	1.76	1.76	1.95
15	>2.0	>2.0	>2.0	>2.0	>2.0	1.96	.48	.84	.55	1.25	1.97	>2.0	>2.0
16	>2.0	>2.0	>2.0	>2.0	>2.0	1.79	.73	1.20	.65	1.65	1.89	>2.0	>2.0
17	>2.0	>2.0	>2.0	>2.0	>2.0	.81	.92	.47	.74	1.91	>2.0	>2.0	>2.0
18	>2.0	>2.0	>2.0	>2.0	>2.0	1.57	.98	.33	.86	>2.0	>2.0	>2.0	>2.0
19	>2.0	>2.0	>2.0	>2.0	>2.0	1.91	1.21	.82	.97	>2.0	>2.0	>2.0	>2.0
20	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.00	1.65	1.05	>2.0	>2.0	>2.0	>2.0
21	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.82	1.78	.97	>2.0	>2.0	>2.0	>2.0
22	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.94	1.60	.66	>2.0	>2.0	>2.0	>2.0
23	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.08	.90	.34	>2.0	>2.0	>2.0	>2.0
24	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.32	.37	.49	1.34	>2.0	>2.0	>2.0
25	>2.0	>2.0	--	>2.0	>2.0	>2.0	1.43	.27	.67	.38	--	>2.0	>2.0
26	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.66	.28	1.05	.48	>2.0	1.70	>2.0
27	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	--	.23	1.27	.28	>2.0	1.78	>2.0
28	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	--	.31	1.41	.34	>2.0	>2.0	>2.0
29	1.03	>2.0	>2.0	>2.0	>2.0	>2.0	.95	.37	--	.52	>2.0	>2.0	--
30	.37	>2.0	>2.0	>2.0	>2.0	>2.0	1.02	.45	--	.78	>2.0	>2.0	--
31	--	>2.0	>2.0	--	>2.0	--	--	.59	--	1.02	--	>2.0	--
MEAN	--	--	--	>2.0	>2.0	--	--	--	.78	--	--	--	--

Table 11. Mean daily water level at well W3-1 at Millington, Tennessee, June 3, 1993 through June 28, 1994

[Water level in feet below land surface; --, no record; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	0.70	0.74	1.17	>2.0	>2.0
2	--	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.78	.35	1.58	>2.0	>2.0
3	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.87	.41	1.12	>2.0	>2.0
4	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.01	.51	.84	>2.0	>2.0
5	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.08	.77	.52	>2.0	>2.0
6	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.26	1.07	.31	>2.0	>2.0
7	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.44	1.39	.40	>2.0	>2.0
8	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.43	1.07	.60	>2.0	>2.0
9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.66	.27	.95	>2.0	>2.0
10	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.31	.34	1.21	>2.0	>2.0
11	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.24	.43	1.46	>2.0	>2.0
12	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.42	.26	.59	1.14	>2.0	>2.0
13	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.27	.31	.72	1.46	>2.0	>2.0
14	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.49	.35	.86	>2.0	>2.0	>2.0
15	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.74	.41	1.21	>2.0	>2.0	>2.0
16	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.85	.48	1.69	>2.0	>2.0	>2.0
17	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.82	.56	1.95	>2.0	>2.0	>2.0
18	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.91	.67	>2.0	>2.0	>2.0	>2.0
19	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.42	.82	--	>2.0	>2.0	>2.0
20	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.62	.83	>2.0	>2.0	>2.0	>2.0
21	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.83	.72	--	>2.0	>2.0	>2.0
22	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.89	.45	--	>2.0	>2.0	>2.0
23	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.66	.31	>2.0	>2.0	>2.0	>2.0
24	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	1.12	.42	1.22	>2.0	>2.0	>2.0
25	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.37	.56	.35	>2.0	>2.0	>2.0
26	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.27	.94	.39	>2.0	>2.0	>2.0
27	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	--	.21	1.17	.23	>2.0	>2.0	>2.0
28	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	--	.31	1.30	.32	>2.0	>2.0	>2.0
29	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.37	--	.48	>2.0	>2.0	--
30	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.45	--	.68	>2.0	>2.0	--
31	--	>2.0	>2.0	--	>2.0	--	>2.0	.58	--	.88	--	>2.0	--
MEAN	--	>2.0	>2.0	>2.0	>2.0	>2.0	--	--	.73	--	--	>2.0	--

Table 12. Mean daily water level at well W3-2 at Millington, Tennessee, June 3, 1993 through June 28, 1994

[Water level in feet below land surface: --, no record; negative values indicate ponded conditions; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	0.22	>2.0	>2.0	>2.0	>2.0	1.37	0.10	0.16	0.20	0.24	>2.0	0.52
2	--	.34	>2.0	>2.0	>2.0	>2.0	1.17	.10	.17	.10	.44	>2.0	.92
3	1.87	.55	>2.0	>2.0	>2.0	>2.0	.28	.10	.19	.11	.27	>2.0	1.35
4	2.00	.91	>2.0	>2.0	>2.0	>2.0	-.01	.12	.18	.12	.21	>2.0	1.67
5	>2.0	1.33	>2.0	>2.0	>2.0	>2.0	.04	.12	.18	.17	.09	>2.0	1.86
6	>2.0	1.69	>2.0	>2.0	>2.0	>2.0	.09	.13	.20	.21	.06	>2.0	1.97
7	>2.0	1.92	>2.0	>2.0	>2.0	>2.0	.12	.05	.24	.28	.10	>2.0	.26
8	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.14	.11	.22	.21	.13	>2.0	.15
9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.13	.12	.09	.01	.18	>2.0	.11
10	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.12	.11	.06	.08	.22	>2.0	.12
11	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.18	.06	-.06	.12	.30	>2.0	.16
12	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.21	.02	.01	.14	.23	>2.0	.29
13	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.10	.04	.05	.15	.42	1.00	.55
14	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.02	.07	.09	.19	.79	.13	.91
15	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	.06	.16	.10	.33	.95	.14	1.38
16	>2.0	>2.0	>2.0	>2.0	>2.0	1.75	.09	.37	.11	.60	1.00	.22	1.74
17	>2.0	>2.0	>2.0	>2.0	>2.0	.06	.10	-.02	.13	.85	1.39	.52	1.97
18	>2.0	>2.0	>2.0	>2.0	>2.0	.13	.11	-.04	.15	1.22	1.71	1.03	>2.0
19	>2.0	>2.0	>2.0	>2.0	>2.0	.18	.13	-.04	.18	1.60	1.98	1.52	>2.0
20	>2.0	>2.0	>2.0	>2.0	>2.0	.28	.07	-.04	.19	1.82	>2.0	1.88	>2.0
21	>2.0	>2.0	>2.0	>2.0	>2.0	.41	.08	-.04	.17	1.97	>2.0	>2.0	>2.0
22	>2.0	>2.0	>2.0	>2.0	>2.0	.55	.09	-.04	.05	>2.0	>2.0	>2.0	>2.0
23	>2.0	>2.0	>2.0	>2.0	>2.0	.69	.12	-.03	.06	>2.0	>2.0	>2.0	>2.0
24	>2.0	>2.0	>2.0	>2.0	>2.0	.84	.15	-.01	.12	.87	>2.0	>2.0	>2.0
25	>2.0	>2.0	>2.0	>2.0	>2.0	.89	.16	-.01	.14	.09	>2.0	>2.0	>2.0
26	>2.0	>2.0	>2.0	>2.0	>2.0	.56	.23	.02	.27	.10	>2.0	.54	>2.0
27	>2.0	>2.0	>2.0	>2.0	>2.0	.54	.25	-.06	.33	-.03	>2.0	.19	>2.0
28	>2.0	>2.0	>2.0	>2.0	>2.0	.73	.12	.03	.38	.05	>2.0	.41	>2.0
29	.46	>2.0	>2.0	>2.0	>2.0	.96	.09	.08	--	.10	>2.0	.73	--
30	.14	>2.0	>2.0	>2.0	>2.0	1.20	.14	.10	--	.14	>2.0	.31	--
31	--	>2.0	>2.0	--	>2.0	--	.15	.13	--	.17	--	.28	--
MEAN	--	--	>2.0	>2.0	>2.0	--	.20	.06	.15	--	--	--	--

Table 13. Mean daily water level at well W3-3 at Millington, Tennessee, June 3, 1993 through June 28, 1994

[Water level in feet below land surface; --, no record; negative values indicate ponded conditions; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	-0.41	>2.0	>2.0	>2.0	>2.0	0.76	-0.39	-0.38	-0.36	-0.34	0.85	-0.31
2	--	-.37	.83	>2.0	>2.0	>2.0	.63	-.39	-.37	-.39	-.32	1.13	-.27
3	0.08	-.33	1.49	>2.0	>2.0	>2.0	.05	-.39	-.37	-.40	-.33	1.12	-.23
4	-.02	-.28	>2.0	>2.0	>2.0	>2.0	-.51	-.38	-.36	-.38	-.35	1.19	-.20
5	.10	-.24	1.84	>2.0	>2.0	>2.0	-.49	-.37	-.40	-.36	-.46	1.40	-.18
6	.29	-.18	.02	>2.0	>2.0	>2.0	-.42	-.37	-.36	-.35	-.50	1.56	-.16
7	.54	-.13	.24	>2.0	>2.0	>2.0	-.39	-.46	-.35	-.33	-.43	1.68	-.34
8	--	-.07	.58	>2.0	>2.0	>2.0	-.38	-.40	-.35	-.35	-.39	1.81	-.37
9	--	.03	1.08	>2.0	>2.0	>2.0	-.38	-.39	-.46	-.54	-.37	1.91	-.45
10	--	.31	1.46	>2.0	>2.0	>2.0	-.39	-.39	-.46	-.44	-.35	>2.0	-.44
11	--	.62	1.77	>2.0	>2.0	>2.0	-.37	-.43	-.60	-.40	-.35	>2.0	-.36
12	--	--	>2.0	>2.0	>2.0	>2.0	-.35	-.47	-.51	-.38	-.35	>2.0	-.33
13	--	--	>2.0	>2.0	>2.0	>2.0	-.41	-.44	-.47	-.37	-.34	.86	-.30
14	--	--	>2.0	>2.0	>2.0	>2.0	-.49	-.42	-.42	-.36	-.30	.25	-.27
15	--	--	>2.0	>2.0	>2.0	1.84	-.44	-.36	-.40	-.33	-.28	.24	-.24
16	--	--	>2.0	>2.0	>2.0	1.49	-.41	-.31	-.39	-.31	-.27	.46	-.21
17	--	--	>2.0	>2.0	>2.0	-.13	-.40	-.49	-.38	-.29	-.25	.76	-.17
18	--	--	>2.0	>2.0	>2.0	-.09	-.39	-.55	-.37	-.25	-.23	.97	-.13
19	--	--	>2.0	>2.0	>2.0	-.06	-.37	-.55	-.35	-.22	-.18	1.13	-.08
20	--	--	>2.0	>2.0	>2.0	-.01	-.41	-.47	-.35	-.20	-.15	1.28	-.01
21	--	--	>2.0	>2.0	>2.0	.06	-.41	-.38	-.35	-.17	-.11	1.41	.16
22	--	--	>2.0	>2.0	>2.0	.16	-.40	-.41	-.49	-.15	-.06	1.52	.46
23	--	--	>2.0	>2.0	>2.0	.28	-.38	-.46	-.47	-.12	.02	1.60	.68
24	--	--	>2.0	>2.0	>2.0	.38	-.36	-.49	-.40	-.29	.18	1.67	.68
25	--	--	>2.0	>2.0	>2.0	.36	-.36	-.57	-.38	-.43	.42	1.72	.86
26	--	--	>2.0	>2.0	>2.0	.20	-.33	-.50	-.35	-.40	.24	.04	.86
27	--	--	>2.0	>2.0	>2.0	.22	-.34	-.65	-.34	-.63	.31	-.40	1.15
28	--	--	>2.0	>2.0	>2.0	.36	-.39	-.53	-.33	-.49	.52	-.34	.88
29	--	--	>2.0	>2.0	>2.0	.50	-.41	-.45	--	-.40	.86	-.31	--
30	-.45	>2.0	>2.0	>2.0	>2.0	.63	-.38	-.42	--	-.37	.65	-.33	--
31	--	>2.0	>2.0	--	>2.0	--	-.37	-.40	--	-.36	--	-.33	--
MEAN	--	--	--	>2.0	>2.0	--	-.31	-.44	-.40	-.35	-.12	--	--

Table 14. Mean daily water level at well W4-2 at Millington, Tennessee, June 4, 1993 through June 28, 1994

[Water level in feet below land surface; --, no record; negative values indicate ponded conditions; water levels greater than 2 (>2.0) feet below land surface indicate that the water table in the soil was below the bottom of the well]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	-0.25	>2.0	>2.0	>2.0	>2.0	-0.03	-0.31	-0.48	-0.53	-0.53	-0.13	-0.50
2	--	-.20	>2.0	>2.0	>2.0	>2.0	-.03	-.31	-.47	-.55	-.52	-.09	-.48
3	--	-.15	>2.0	>2.0	>2.0	>2.0	-.14	-.31	-.46	-.56	-.52	-.08	-.45
4	1.66	-.09	>2.0	>2.0	>2.0	>2.0	-.43	-.29	-.51	-.56	-.53	-.23	-.41
5	1.90	.00	>2.0	>2.0	>2.0	>2.0	-.47	-.28	-.54	-.55	-.56	-.88	-.39
6	>2.0	.18	1.98	>2.0	>2.0	>2.0	-.44	-.28	-.53	-.53	-.59	-.55	-.37
7	>2.0	.65	>2.0	>2.0	>2.0	>2.0	-.41	-.31	-.53	-.52	-.56	-.20	-.47
8	>2.0	1.20	>2.0	>2.0	>2.0	>2.0	-.39	-.31	-.53	-.52	-.56	-.05	-.51
9	>2.0	1.55	>2.0	>2.0	>2.0	>2.0	-.39	-.30	-.55	-.60	-.55	.22	-.53
10	>2.0	1.82	>2.0	>2.0	>2.0	>2.0	-.38	-.30	-.58	-.59	-.54	.53	-.55
11	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	-.36	-.31	-.65	-.57	-.53	.75	-.52
12	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	-.34	-.36	-.63	-.56	-.53	.93	-.50
13	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	-.37	-.38	-.61	-.56	-.53	.22	-.48
14	>2.0	>2.0	>2.0	>2.0	>2.0	1.70	-.45	-.37	-.59	-.55	-.51	-.56	-.46
15	>2.0	>2.0	>2.0	>2.0	>2.0	1.17	-.44	-.34	-.58	-.53	-.49	-.57	-.43
16	>2.0	>2.0	>2.0	>2.0	>2.0	.80	-.42	-.30	-.57	-.51	-.49	-.55	-.40
17	>2.0	>2.0	>2.0	>2.0	>2.0	-.45	-.41	-.37	-.57	-.49	-.48	-.52	-.37
18	>2.0	>2.0	>2.0	>2.0	>2.0	-.38	-.40	-.41	-.56	-.47	-.47	-.49	-.34
19	>2.0	>2.0	>2.0	>2.0	>2.0	-.35	-.38	-.41	-.55	-.44	-.44	-.46	-.30
20	>2.0	>2.0	>2.0	>2.0	>2.0	-.30	-.39	-.39	-.54	-.42	-.41	-.42	-.26
21	>2.0	>2.0	>2.0	>2.0	>2.0	-.27	-.39	-.35	-.54	-.41	-.39	-.38	-.21
22	>2.0	>2.0	>2.0	>2.0	>2.0	-.24	-.38	-.33	-.58	-.39	-.35	-.35	-.14
23	>2.0	>2.0	>2.0	>2.0	>2.0	-.21	-.36	-.35	-.61	-.38	-.32	-.32	-.03
24	>2.0	>2.0	>2.0	>2.0	>2.0	-.19	-.34	-.38	-.58	-.44	-.28	-.29	.36
25	>2.0	>2.0	>2.0	>2.0	>2.0	-.16	-.33	-.46	-.57	-.56	-.24	-.25	-.81
26	>2.0	>2.0	>2.0	>2.0	>2.0	-.17	-.31	-.51	-.54	-.57	-.23	-.51	.90
27	>2.0	>2.0	>2.0	>2.0	>2.0	-.17	-.30	-.56	-.53	-.63	-.22	-.57	1.32
28	>2.0	>2.0	>2.0	>2.0	>2.0	-.14	-.31	-.56	-.52	-.62	-.21	-.54	.12
29	.28	>2.0	>2.0	>2.0	>2.0	-.11	-.34	-.52	--	-.58	-.15	-.52	--
30	-.29	>2.0	>2.0	>2.0	>2.0	-.07	-.32	-.50	--	-.56	-.15	-.52	--
31	--	>2.0	>2.0	--	>2.0	--	-.30	-.49	--	-.54	--	-.52	--
MEAN	--	--	--	>2.0	>2.0	--	-.35	-.38	-.55	-.53	-.43	-.25	--

wells W3-3 (fig. 6) and W4-2 (fig. 7) remained above land surface during most of the period from December 1993 to June 1994. In the other wells, water levels generally declined to below the bottom of the wells during that same period. Water-level data more than 1.8 feet below land surface in wells W2-1 and W2-2, and water-level data more than 2.0 feet below land surface in the remaining wells do not represent the water table in the soil because the float was resting on the bottom of the well.

An estimate of the total amount of time each well was inundated (table 15) was made based on mean daily water levels (tables 2-14). At 9 of the 13 well sites, water levels were within 1.5 feet below land surface for 16-37 percent of the time, but no standing water was measured at any time during the 13-month period. Two of the 13 well sites had water levels within 1.5 feet below land surface 41-46 percent of the time, and standing water 1-3 percent of the time. The remaining two sites were very wet with water levels within 1.5 feet below land surface 61-68 percent of the time, and standing water 51-56 percent of the time.

Eight of the 13 wells in the study area were flooded at the surface for 1 week or longer during the local growing season. Three wells (W1-2, W2-3, and W3-2) were either inundated or had water-table depths of less than 0.5 foot for at least one period of 7 or more consecutive days between June 1, 1993 through November 12, 1993 and March 15 through June 30, 1994. In addition, wells W1-4 and W4-2 had wetland

hydrology for more than one period of 7 or more consecutive days during the local growing season. Well W1-4 was inundated or had a water-table depth of less than 0.5 foot for 8 consecutive days from March 25 through April 1, 1994, and for 11 consecutive days from April 3 through April 13, 1994. Well W4-2 was inundated or had a water-table depth of less than 0.5 foot for 56 consecutive days from March 15 through May 9, 1994, and for 44 consecutive days from May 13 through June 25, 1994. Well W1-5 was either inundated or had water-table depths of less than 1.0 foot for 21 consecutive days between March 24, 1994 through April 13, 1994. Well W3-3 was either inundated or had water-table depths of less than 1.0 foot for 46 consecutive days between March 16 through April 30, 1994, and for 32 consecutive days between May 26 through June 26, 1994.

Stage and Precipitation Data

Stage data were recorded at 1-hour intervals in the Crooked Creek natural channel gage with 1 day of missing record for the period of study (table 16). Maximum and minimum stage in the Crooked Creek natural channel were 2.99 feet and 0.44 foot, respectively.

Precipitation data were collected at the NASM, Millington, Tennessee (table 17). The rain gage was located approximately 2 miles north of the wetland site. A 4-inch ring and funnel rain gage was used by

Table 15. Summary of water-level data for wells W1-1 through W1-5, W2-1 through W2-4, W3-1 through W3-3, and W4-2 at Millington, Tennessee, June 2 through June 30, 1994

Well number	Total days of record	Number of days and percentage of time mean daily water level was above land surface		Number of days and percentage of time mean daily water level was less than 1.5 feet below land surface	
		Days	Percent	Days	Percent
W1-1	391	0	0	146	37
W1-2	388	4	1	158	41
W1-3	391	0	0	113	29
W1-4	364	0	0	93	26
W1-5	391	0	0	140	36
W2-1	388	0	0	63	16
W2-2	384	0	0	66	17
W2-3	389	0	0	79	20
W2-4	379	0	0	113	30
W3-1	386	0	0	77	20
W3-2	391	13	3	178	46
W3-3	351	180	51	238	68
W4-2	390	220	56	236	61

Table 16. Daily mean stage at the Crooked Creek natural channel gage at Millington, Tennessee, June 3, 1993 through June 28, 1994

[Stage in feet above gage datum; --, no record]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	--	2.26	1.47	1.21	0.81	0.44	2.37	2.43	2.12	2.42	2.50	2.60	2.73
2	--	--	1.57	1.25	.84	.44	2.40	2.39	2.13	2.43	2.50	2.59	2.71
3	2.24	2.25	1.56	1.26	.88	.44	2.45	2.42	2.14	2.42	2.53	2.60	2.70
4	2.24	2.24	1.55	1.24	.86	.44	2.52	2.44	2.17	2.43	2.53	2.60	2.69
5	2.22	2.22	1.57	1.21	.83	.44	2.48	2.44	2.19	2.43	2.62	2.58	2.69
6	2.20	2.20	1.77	1.18	.81	.44	2.42	2.45	2.21	2.44	2.66	2.57	2.69
7	2.19	2.18	1.80	1.15	.78	.44	2.40	2.47	2.23	2.46	2.59	2.56	2.79
8	2.17	2.14	1.79	1.12	.76	.44	2.42	2.40	2.26	2.49	2.58	2.56	2.78
9	2.14	2.11	1.77	1.10	.75	.44	2.43	2.37	2.34	2.61	2.58	2.54	2.82
10	2.12	2.08	1.75	1.07	.71	.44	2.44	2.30	2.36	2.55	2.60	2.52	2.83
11	2.09	2.05	1.73	1.03	.67	.44	2.44	2.35	2.56	2.51	2.60	2.50	2.81
12	2.06	2.02	1.72	.99	.63	.44	2.45	2.45	2.42	2.50	2.62	2.49	2.80
13	2.03	1.98	1.70	.97	.56	.44	2.47	2.47	2.39	2.51	2.61	2.62	2.78
14	2.00	1.95	1.67	1.06	.46	.58	2.48	2.48	2.34	2.51	2.61	2.66	2.77
15	1.98	1.92	1.65	1.05	.44	.96	2.46	2.47	2.33	2.51	2.63	2.67	2.75
16	1.94	1.89	1.62	1.03	.44	1.15	2.45	2.48	2.32	2.51	2.64	2.66	2.73
17	1.91	1.86	1.59	1.00	.44	2.16	2.46	2.53	2.32	2.51	2.63	2.64	2.70
18	1.88	1.83	1.55	.98	.44	2.27	2.47	2.54	2.33	2.51	2.62	2.61	2.68
19	1.85	1.81	1.52	.95	.59	2.32	2.46	2.53	2.34	2.51	2.62	2.58	2.65
20	1.86	1.79	1.49	.94	.72	2.31	2.48	2.53	2.36	2.51	2.62	2.56	2.63
21	1.92	1.77	1.45	.92	.75	2.32	2.47	2.53	2.38	2.52	2.62	2.53	2.59
22	1.90	1.76	1.42	.88	.73	2.33	2.47	2.38	2.57	2.51	2.61	2.49	2.57
23	1.88	1.71	1.40	.87	.71	2.35	2.47	2.10	2.47	2.51	2.59	2.46	2.54
24	1.87	1.66	1.37	.89	.69	2.36	2.47	1.99	2.36	2.57	2.58	2.44	2.55
25	1.90	1.62	1.33	.95	.67	2.38	2.45	2.10	2.37	2.57	2.58	2.41	2.54
26	1.95	1.57	1.29	.96	.64	2.40	2.34	2.18	2.37	2.57	2.61	2.71	2.53
27	1.94	1.53	1.26	.94	.59	2.40	2.38	2.68	2.38	2.99	2.61	2.73	2.52
28	1.92	1.48	1.23	.91	.47	2.39	2.45	2.40	2.38	2.62	2.60	2.70	2.54
29	2.13	1.43	1.21	.87	.44	2.38	2.45	2.07	--	2.49	2.58	2.69	--
30	2.26	1.39	1.17	.84	.44	2.37	2.44	2.06	--	2.49	2.60	2.73	--
31	--	1.34	1.17	--	.44	--	2.44	2.10	--	2.49	--	2.73	--
MEAN	--	--	1.52	1.03	.64	1.37	2.44	2.37	2.33	2.52	2.60	2.59	--

Table 17. Daily precipitation at Naval Air Station Memphis, Millington, Tennessee, June 1, 1993 through June 30, 1994

[Precipitation in inches; T, trace; --, no record; Precipitation data near the wetland site were obtained from M.E. Evans, Naval Air Station Memphis, Millington, Tennessee, written commun., 1994]

DAY	1993							1994					
	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	0.00	0.00	0.09	0.99	0.00	0.00	0.00	0.08	0.00	0.34	0.00	0.00	0.00
2	T	.00	.81	.00	.80	T	.43	T	.00	.09	.00	.15	.00
3	.00	.00	.05	.22	.00	.03	1.19	T	.00	.00	.46	.06	.00
4	T	.00	.16	.00	.00	.02	.92	.05	T	.00	.00	.00	.00
5	T	.00	1.05	.00	.00	.00	.00	.00	T	.00	.59	.00	.00
6	.00	.00	.19	.00	.00	.00	.00	.70	.00	.00	.04	.00	.39
7	.00	.00	.00	.00	.00	.00	.00	.10	.00	T	.00	.19	.89
8	.00	.00	.00	.05	.00	.00	.00	.00	T	.84	.00	.00	.53
9	.00	.00	.00	.13	.17	.00	.29	.00	.73	.78	.00	.00	.04
10	.04	.00	.00	.00	.00	.00	T	.00	.48	.00	.08	.00	.77
11	T	.00	.00	.00	.03	T	.00	.54	.21	.00	.01	.00	.00
12	.02	.00	T	.00	.00	.30	.00	T	T	.00	.34	T	.00
13	.00	.00	.00	.60	.00	.44	1.05	.00	.00	T	.00	1.41	.00
14	.00	.00	.00	.20	.00	1.36	.12	.03	.00	.00	.00	.24	.00
15	.00	.00	.00	.04	.06	.00	.00	.00	.00	.00	.55	.07	.00
16	.00	.00	.00	.03	T	1.76	.00	.14	.00	.00	.00	.00	.01
17	.00	.00	.00	.00	.09	.02	T	.66	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.40	T	.00	T	.00	.00	.00	.00	.00
19	.00	T	.00	.00	.83	T	.00	.00	.00	.00	.00	.00	.00
20	.65	.00	.00	.13	.92	.00	.32	T	.20	T	.00	.00	.00
21	T	.00	.00	.00	T	.00	.00	.00	.00	.02	.00	.00	.00
22	.00	.02	.38	.00	.00	.00	.03	.00	1.62	.00	.00	.00	.00
23	.00	.00	.00	.54	.00	.00	.00	.01	T	T	.00	.00	T
24	.20	.00	.00	.80	.00	.01	.00	.30	.00	1.36	.00	.00	.33
25	.49	.00	.00	.22	.00	.25	.00	.35	.00	.00	.00	.03	.00
26	.00	.00	.00	T	.00	.27	.00	.58	.00	.87	.34	2.17	.31
27	T	.00	.00	.00	.00	.00	.06	2.19	.00	2.28	.04	.00	.00
28	.20	.00	.00	.00	.00	.00	.52	T	T	T	.00	.00	.65
29	1.14	.00	.00	.00	.11	.00	.00	.00	--	.00	.00	.00	.00
30	.00	.00	.00	.00	.02	.00	.00	T	--	.00	.44	.05	.26
31	--	T	1.02	--	.00	--	.00	.00	--	.00	--	.00	--
TOTAL	2.74	.02	3.76	3.95	3.43	4.46	4.93	5.73	3.24	6.58	2.89	4.37	4.18

NASM personnel to collect precipitation. Precipitation data were recorded at 6-hour intervals during the period of study. Daily precipitation ranged from none on many days to 2.28 inches on March 27, 1994.

SUMMARY

Thirteen continuous-record wells and a stage gage were installed by the U.S. Geological Survey at a wetland site in Millington, Tennessee. These wells provided water-level data for the wetland to aid in understanding the area hydrology. Precipitation and Crooked Creek natural channel-stage information also were collected.

An estimate of the total amount of time that each of the 13 continuous-record wells was inundated was made based on mean daily water levels. Land surface was inundated from 0 to 56 percent of the study period. Additionally, water levels were not more than 1.5 feet below the land surface from 16 to 68 percent of the study period. Eight of the 13 wells in the study area were flooded at the surface for 1 week or longer during the local growing season. Three wells (W1-2, W2-3, and W3-2) were either inundated or had water-table depths of less than 0.5 foot for at least one period of 7 or more consecutive days between June 1, 1993 through November 12, 1993 and March 15 through June 30, 1994. In addition, wells W1-4 and W4-2 had wetland hydrology for more than one period of 7 or more consecutive days during the local growing season. Well W1-4 was inundated or had a water-table depth of less than 0.5 foot for 8 consecutive days from March 25 through April 1, 1994, and for 11 consecutive days from April 3 through April 13, 1994. Well W4-2 was inundated or had a water-table depth of less than 0.5 foot for 56 consecutive days from March 15

through May 9, 1994, and for 44 consecutive days from May 13 through June 25, 1994. Well W1-5 was either inundated or had water-table depths of less than 1.0 foot for 21 consecutive days between March 24, 1994 through April 13, 1994. Well W3-3 was either inundated or had water-table depths of less than 1.0 foot for 46 consecutive days between March 16 through April 30, 1994, and for 32 consecutive days between May 26 through June 26, 1994.

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